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The Dividend Payout Policy – A Study on Malaysian Financial Institutions

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ABSTRACT

The purpose of this study is to identify the determinants of dividend policy in Malaysian financial institutions. Panel data set were constructed from 33 financial institutions in Malaysia for a period of 10 years (2001-2010). The results show a statistically significant positive relationship between dividend policy and profitability, which implies that Malaysian financial institutions distribute higher dividends when they record higher profitability. Lagged dividend also shows a positive significant relationship with dividend policy, which implies that financial institutions in Malaysia follow a stable dividend policy that maintains regularity of dividend payments with gradual adjustments of dividend payments towards the target payout. On the other hand, leverage shows a significant negative relationship with dividend policy, which means that a riskier financial institution pays out lower dividends. In conclusion, profitability, lagged dividend and leverage are found to be the major determinants of dividend policy in relation to Malaysian financial institutions. The results support the agency cost theory, signaling theory and the free cash flow hypothesis.

JEL Classification: G35, G21

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INTRODUCTION

Black (1976) states in his study that, "the harder we look at dividend, the more it seems like a puzzle with pieces that just don't fit together." Until today, the dividend payout decision has always been a subject of interest to financial analysts, academicians and researchers as they are interested in

studying the extent to which the earnings of a company are distributed in dividends among shareholders or retained for future growth of the company. There are different arguments with regards to dividends in finance-related literature. Miller and Modigliani (1961) first raised the issue on dividend policy, arguing that in a perfect capital market, the dividend decision is irrelevant as it does not affect the value of the firm. However, this argument is opposed by financial practitioners as well as academicians due to the existence of market imperfections such as differential tax rates, information asymmetries, conflict of interest between managers and shareholders, transaction costs, flotation costs and irrational investor behaviour. Shiller (1984) observes that investor behaviour is largely affected by societal norms and attitudes. Furthermore, errors in judgement and trading activities by shareholders cannot be logically explained due to social pressures. On the other hand, Michel (1979) reports a systematic relation between industry type and dividend policy. This shows that the actions of executives of competitive firms do influence the determination of dividend payout levels made by managers.

Companies pay dividends for three common reasons: taxation, asymmetric information and agency costs. In terms of taxation, investors may prefer stocks that have low dividend payouts if they have favourable tax treatment. This is supported by Brennan (1970), who found that higher pretax risk adjusted returns on stocks with higher dividend yields are required to compensate for the tax disadvantages of these returns. Furthermore, managers choose to increase the level of dividends as an indication of indirect confidential information to investors such as in a situation where they believe that the current market value of their firm's stock is lower than its intrinsic value. Thus, the result of the dividend-signaling hypothesis is that firms that increase/decrease dividends will experience increasing/decreasing share prices (Bhattacharya, 1979). Agency relationship between managers and shareholders of the firm is also one of the causes why firms pay dividends. Easterbrook (1984) suggests that in order to lessen the agency costs between shareholders and managers, firms pay dividends. If the firm pays dividends, they can opt to raise money through the capital market. However, they will be subject to the scrutiny and disciplining effect of investment professionals. Thus, in exchange for the increased monitoring, shareholders are willing to accept higher personal taxes associated with dividends.

The dividend decision reflects the market value of the firm, for there will be less availability of internal funds for expansion purposes of the firm as a direct consequence of dividend payments. Therefore, in deciding on dividend payment, there is a dilemma in balancing between the shareholder's expectation and the firm's long-term interest. Since Miller and Modigliani's study, many other studies have been conducted to identify how dividend affects the firm's value as well as how

dividend policy should be formulated by managers. In practice, different dividend payment models are used such as residual dividend policy, constant growth dividend policy, constant dividend payout ratio, low stable dividend and premium payout policy at the end of the year. These policies are normally chosen based on the size and profitability of the company. (Alekneviciene *et al.*, 2006).

There are many factors that are seen to have an effect on the dividend decision. These factors may differ from country to country as well as from industry to industry. However, there has been little attention given to financial institutions in relation to the study on dividend policy. Financial institutions are normally excluded from the samples in studies of firms' decision policy due to their characteristics of high leverage, tight regulation, capital structure and asset opaqueness. For example, the Malaysian Banking and Financial Institutions Act 1989 (BAFIA) requires that every licensed institution apply in writing for the Central Bank's approval with respect to the amount of dividend proposed for declaration. The Central Bank may approve the same, or a reduced amount, or even prohibit payment of any dividends, depending on the financial condition of the institution.

Previously, the financial sector was just an enabler of growth; however, it has morphed from being an enabler to a vital source of economic growth. The Malaysian financial sector has encountered significant transformation, together with reinvention. As a result of the restructuring, consolidation and rationalisation efforts that were undertaken in the banking sector, the Malaysian financial sector now rests on a stronger foundation. Furthermore, progressive deregulation and liberalisation have contributed to the increasing flexibility of financial institutions as well as created new business opportunities and increased competition.

This study aims to identify the determinants of dividend policy in Malaysian financial institutions. Even though there is an enormous volume of studies conducted on issues related to determinants of dividend policy, these studies have mainly focused on developed countries, and the conclusion reached may not be applicable in countries with different corporate cultures and economic frameworks. Furthermore, very little attention has been given to financial institutions in relation to study into dividend policy. The rest of this paper is organised as follows: the next section provides a review of related studies in a literature review. The third section outlines the data and methodology. The fourth section discusses the results, and finally, the article is concluded in the fifth section.

LITERATURE REVIEW

Ross *et al.* (2008) define dividends as cash that is paid out arising from current or accumulated current earnings. This payment is divided among shareholders out of the cash surplus from their net income for the year, depending on management's decision to retain it for re-investment purposes or to pay out as dividends.

Tax-adjusted models conclude that investors require higher expected returns for shares of dividend paying stocks. Due to the imposition of tax liability on dividends, dividend payment needs to be grossed up in order to enhance the shareholder's pre-tax returns. Masulis and Trueman (1988) view cash dividend payments as deferred dividend costs. They predict that investors differ in their ideal firm investment or dividend policy based on their tax liabilities. In a situation where there is an increase in tax liabilities, the dividend payments would decrease, while earnings reinvestment increases and vice-versa. Differences will then be minimised by segregating the investors into clientele. Farrar and Selwyn (1967) developed a model with the assumption that investors capitalise on after-tax income, where in a partial equilibrium framework, investors have two options: either they select the amount of personal and corporate tax leverage or accept corporate distributions as dividends or capital gains. This model argues that share repurchase is supposed to be considered as distribution of corporate earnings rather than dividend. Miller (1986) criticises the tax-adjusted model as incompatible with rational behaviour. He suggests that individuals can avoid tax liability of these payments by refraining from purchasing dividend-paying shares. Alternatively, shareholders can purchase dividend-paying stocks and receive distributions while at the same time use borrowed finances to invest in securities that are tax-free.

Market imperfection of asymmetric information has become the foundation for three different efforts in explaining corporate dividend policy: 1) the signaling model, 2) the agency cost model and 3) the free cash flow hypothesis. The dividend signaling model arises from the lack of information asymmetries between managers and owners through unanticipated changes in dividend policy. The signaling theory believes that compared to any other alternatives, the dividend policy is able to communicate information about the existing or expected level of earnings (Chen & Dhiensiri, 2009). They point out that share price reactions are not caused by the dividend payout itself, but by the information that investors understood with regards to the future prospects of the firm. A reduction in dividend is viewed as very bad news, as it is usually understood to arise after a sustained decrease in earnings, and it conveys the expectation of management of having less cash than it had in the past. Dividends also help investors in solving the asymmetric information problem of identifying between high-quality and low-quality firms because high-quality firms will naturally be able to pay dividends.

The agency cost model assumes that firms pay dividends in order to solve the agency's problems arising from the separation of corporate ownership and control (Megginson et, al., 2010). Dividend is perceived as an approach to lessen the agency's costs that arise from the managers and owners of the firm, thus

offering a rationale for the distribution of cash resources to shareholders (Chen & Dhiensiri, 2009). Based on the agency theory, the need for monitoring managers increases in more dispersed ownership firms due to severe agency problems. However, in a firm that has high managerial ownership, agency costs are lower due to the better alignment of both the shareholders' and the manager's goals (Jensen & Meckling, 1976). Agency problems that might arise as a result of information asymmetries are wealth transfers from bondholders to shareholders as well as failure to accept projects that have positive net present value (Barnea, et.al, 1981). There are two ways in which dividend policy influences these situations. Fama and Jensen (1983) highlight that covenants that govern claim priority are able to mitigate the conflict between shareholder and bondholder. Besides that, Easterbrook (1984) suggests that the reduction of agency costs between shareholders and managers is the reason why firms pay dividends. If the firm pays dividends, they can opt to raise money through the capital market. However, they will be subject to the scrutiny and disciplining effect of investment professionals. In exchange for the increased monitoring, shareholders are willing to accept higher personal taxes associated with dividends.

The free cash flow hypothesis combines market information asymmetrics and the agency theory (Jensen, 1986). The inefficient utilisation of funds in excess of profitable investment avenues by the management was first identified by Berle and Means (1932). Managers whose goal is to maximise shareholders' wealth should invest in all profitable opportunities. The free cash flow hypothesis suggests that paying high dividends is one of the ways to hinder managers from investing in projects below cost of capital or wasting the cash on organisation inefficiencies with respect to firms that have growth opportunities and higher free cash flow. After financing all positive net present value projects, the remaining funds can bring conflicts of interest between managers and shareholders (Frankfurter & Wood, 2002). Therefore, debt interest payments and dividend payments will reduce the amount of free cash flow available to managers to invest in marginal net present value projects as well as consumptions that benefit the manager. Frankfurter and Wood (2002) conclude that comparing either one of the theories (market information asymmetric and agency theory) with better explains dividend policy rather than explaining dividend policy from an understanding of both theories combined.

Determinants of Dividend Policy

From the literature review, many factors may be identified as the determinants of dividend policy. This study, however, will focus on a few selected factors, which are profitability, liquidity, lagged dividend, growth opportunities and leverage.

Profitability

Lintner (1956) takes the qualitative approach in his study by conducting interviews with personnel of large firms in the United States

of America to address corporate dividend behaviour. Throughout the interviews, he found that the main determinants of dividend changes were the most recent earnings and past dividend paid. Management is more concerned with the change in rather than the amount of dividend and it tries to maintain a consistent level of dividend. Furthermore, there was a tendency to move towards some target payout ratio; however, the speed of adjustment varies among companies. Fama and Babiak (1968) used statistical techniques of regression analysis, simulations and prediction tests to study the determinants of dividend payments by individual firms during the period from 1946 to 1964. They conclude that net income provides a better measure of dividend compared to either cash flow or net income and depreciation incorporated as separate variables in the model.

This is further supported by Pruitt and Gitman (1991) who also take a qualitative approach by interviewing the financial managers of a thousand of the largest US companies and found that vital factors that influence dividend payments are current and past-year profits. They also add that firms with relatively stable earnings are more likely to distribute a higher percentage of their earnings as dividend compared to firms with fluctuating earnings. Furthermore, Fama and French (2001), who study the characteristics of dividend paying companies, found that firm size, profitability and investment opportunities affect the decision to pay dividends. Larger firms that are more profitable are expected to pay dividends. However, firms with more investment opportunities are less expected to pay dividends.

Pandey (2003) in his study of corporate dividend policy and behaviour in Malaysia finds that payout ratios vary from industry to industry. Based on the results of multinominal logit analysis, it can be seen that the dividends of companies listed in KLSE are sensitive to changes in earnings. From a slightly different view, Baker *et al.* (1985) conclude that the levels of future earnings and past dividend patterns are the major determinants of dividend payments in their study of 318 New York Stock Exchange firms. This is further supported by Baker and Powell (2000). Based on their survey of NYSE listed firms, they find that determinants of dividends differ from industry to industry. Anticipated levels of future earnings are the main determinant of dividend policy. Moreover, in studying the dividend policy and payout ratio based on evidence collected from the Kuala Lumpur Stock Exchange, Al-Twaijry (2007) finds that there is no significant correlation between earnings and payout ratio, which is in line to past results of most Malaysian companies, where the link between the companies' dividend policies and the companies' income for the year is not clear.

Liquidity

Brittain (1966) suggests that the more suitable measure of a company's capability to pay dividends is cash flow. Cash flow is derived from profit after tax plus depreciation expenses of the financial

year. He argues that dividend payment is considered a charge before depreciation and thus, should be related to earnings. Besides that, due to the changes in regulations and accounting practices related to depreciation allowance, net current earnings would fail to mirror the movement of true earnings, which is the ultimate basis of the ability to pay dividends. This is further supported by Alli *et al.* (1993), who disclose that dividend payments depend more on cash flow which reflect the firm's ability to pay dividends rather than on current earnings. This is because current earnings are more heavily influenced by accounting practices. Thus, current earnings do not really reflect the firm's ability to pay dividends.

Furthermore, Jensen (1986) suggests that conflict of interest between shareholders and managers over payout policy is severe when the firm generates considerable free cash flow, in which situation the free cash flow hypothesis concludes that a firm should pay higher dividends if growth opportunities are fewer and free cash flow is higher in order to prevent managers from investing the cash at below cost of capital or wasting it on organisational inefficiencies. Thus, it is expected that there be a positive relationship between free cash flow and dividend payout.

Chen and Dhiensiri (2009) analyse the determinants of the corporate dividend policy using a sample of firms listed in the New Zealand Stock Exchange using 11 independent variables, each representing the various dividend theories, which are signaling theory, agency theory, residual theory, dividend stability theory and imputation system. Ordinary least squares regression was adopted to test the relationship and the findings strongly support the agency theory, where the higher the management share holding, the lower the dividend payout ratio. Besides that, the more dispersive the ownership structure, the higher the dividend payout ratio. They also find a significant positive relationship between the level of free cash flow and dividend payout ratio in their truncated sample. However, their full sample shows that there is a positive but insignificant relationship between the level of free cash flow and dividend payout ratio.

In addition, Mahapatra and Biswasroy (2002) study the influence of profit after tax and cash flow on the dividend policy of 59 Indian sample companies from four industries for a period of 12 years and find that dividend policy is mostly influenced by cash flow, where as profit after tax was found to be a less significant determinant. Furthermore, Anil and Kapoor (2008) examine the determinants of dividend payout ratios of the Indian Information Technology Sector. The sample selected for this study come from companies under the CNX IT, which have more than 50 % of their turnover contributed from IT-related activities such as software development, hardware manufacture, vending, support and maintenance. Data collectd over seven years (2000–2006) were then tested using a multiple linear regression technique. The results show a positive but insignificant relationship between profitability and dividend payout ratio. However, there is a

positive and significant relationship between cash flow and dividend payout ratio. On the other hand, corporate taxes, sales growth and market-to-book value show an insignificant relationship and thus, it is concluded that these are not the important factors that influence the dividend payout ratio of the Indian IT sector.

In contrast, Simon (1994) studies the determinants of dividend payments by US firms from the year 1984 to 1985 by re-evaluating Lintner's data with new independent variables related to cash flows. Though his results support Lintner's view that changes in per share dividends are related to earnings and the previous year's dividend payout, he finds that there is no relationship between cash flows and dividend policy. More firms that have a large portion of idle cash are likely to return part of the cash to their investors. When the amount of idle cash available to management is reduced, the ability of management to use that idle cash for their own interests rather than the interests of management will therefore be reduced. However, this effect might not be clear with regards to financial institutions as financial institutions have a wide range of short-term investment vehicles in which to place their idle funds. Yiedom and Agyei (2011), who conducted a study on the determinants of dividend policy of banks in Ghana by the use of panel methodology with random effects model, found that liquidity has a negative but insignificant relationship with dividend payout, and they highlight that this is probably due to the wide array short-term investment vehicles available to financial institutions.

Lagged Dividend

Baker *et al.* (1985) and Farelly *et al.* (1986) survey 562 New York Stock Exchange firms and based on their analysis, they conclude that the major determinants of dividend payments are the pattern of past dividends and the expected future earnings. Furthermore, the results also show that managers are concerned with dividend stability and believe that dividend policy affects share value. In addition, Pal and Goyal (2007) study the leading determinants of the dividend policy of the Indian banking industry by applying various statistical models which include the Backward Elimination regression model, the Granger Causality Model and the Lintner Model. They eventually show some concrete results related to dividend decisions in the Indian banking industry, where the industry follows a stable dividend policy as lagged dividend that emerges as the significant factor. In addition, Yiadom and Agyei (2011) find that a change in dividend is one of the statistically significant factors that positively influences the dividend policy of banks in Ghana. In addition, Isa (1992) concludes in his study that firms in Malaysia follow stable dividend policies. In contrast, Darling (1957) argues that lagged dividend has no direct influence on the decision-making on dividends. This is because the weight assigned to it in the regression equation is a reflection of some other variables that co-vary with the lagged dividends and thus, the

function based on lagged dividend is only useful for the short-run prediction. However, he suggests that lagged profit would offer a better explanation of the current dividend level.

Growth Opportunities

Dhemeja (1976) tests the dividend behaviour of Indian companies by classifying them into size group, industry group, growth group and control group and finds that there is no statistically significant relationship between dividend payout of one industry and size of another. Furthermore, growth is negatively related to dividend payout and is found to be significant. In addition, Rozeff (1982) argues that if past or anticipated future growth is rapid, managers tend to conserve funds for reinvestment purposes and thus, a lower payout ratio is established. This is further supported by a study conducted by Chen and Dhiensiri (2009) in their study using evidence from New Zealand. Krishnamoorthy and Sastry (1971) study the dividend behavior of the chemical industry for the period between 1962 and 1967 using Lintner's model with additional explanatory variables such as investment expenditure and external finance. The study shows that investment activity influences the dividend policy of the firms, implying higher savings when the investment climate is positive. This is further supported by Yiadom and Agyei (20011), who find that growth influences a bank's dividend policy negatively and significantly.

Smith (1963) studies the factors influencing corporate savings decisions of firms. These factors have been classified into two broad categories; the first factor is the investment decision and the second factor arises from dividend stability. He finds that income and lagged dividend play a vital role in corporate savings in the short run but demand for investment fund has a smaller role in deciding the behaviour of corporate savings. However, in the long run, demand for investment funds plays an important role in estimating corporate savings. This study shows slightly different views in terms of the short-run and long-run effect of growth towards making a dividend decision.

There are studies that show that the dividend decision is independent of investment policy. For example, Pruitt and Gitman's survey (1991) based on 114 responses finds that managers make dividend decisions independent of investment and financing decisions. They find that the major influences on current dividends are profits and lagged dividend. In addition, Al-Twaijry (2007) also finds that in the case of companies listed in the Kuala Lumpur Stock Exchange , the payout ratio and the company's future growth are negatively correlated, albeit insignificantly. Furthermore, Ahmed and Javid (2009) find that growth and leverage are not the determinants of dividend policies in listed firms of the Karachi Stock Exchange. In addition, Naceur et.al (2006), who conducts a study on the re-examination of dividend policy in a dynamic panel data analysis, finds that growth has negative insignificant

relationship with the dividend payout of financial institutions in Tunisia.

Leverage

Financial institutions are typically leveraged and their debt contracts (deposits) are generally standardised, resulting in little chance for the imposition of indentures and specific covenants. In banks, particularly, deposits are highly demandable and depositors can withdraw their funds from the bank as a way of disciplining bank managers from expropriation and taking excessive risk. In addition, excessive risk taking is sometimes punished with higher required interest rates and slower deposit growth. Hence, it is understandable that banks use dividends for the purpose of signaling quality of their assets to debt holders and depositors. However, this can be very costly due to the regulation of capital adequacy requirements (Forti & Schiozer, 2011).

Dhrymes and Kurz (1964), Mahapatra and Sahu (1993) and Mahapatra and Panda (1995) have identified debt equity ratio (represented by capital structure/financial leverage) as another factor that has strong impact on a firm's dividend behaviour. A firm often demands external finances if there is a constraint on its internal resources, which are generated by net profits after tax and dividends. Thus, the higher the dividend, the higher the demand for borrowing. On the other hand, lower dividends will bring about a lower debt equity ratio due to less demand for borrowing. This is also supported by Aivazian and Booth (2003), where they find that US firms and emerging market firms which have higher debt ratios will have lower dividend payments.

Al-Kuwairi (2009) confirms that the dividend policy is inversely related to the leverage ratio. Nonetheless, in their study of the determinants of the dividend policy for banks in Ghana, Yiadom and Agyei (2011) find that the use of debt has been associated with lower agency cost and enhanced firm profitability, both of which have the tendency of improving dividend payments. However, a study conducted by Abor and Bokpin (2010) on investment opportunities, corporate finance and dividend payout policy contradicts this opinion. They investigate the effects of investment opportunities and corporate finance on dividend policy with a sample of 34 emerging market countries covering a 17-year period using the fixed effects panel model. Although the results exhibit a positive relationship between financial leverage and dividend payouts, this relationship, however, is not significant. Ajmi and Hussain (2011), in examining corporate dividend decisions of Saudi Arabian firms, find that current profit, lagged dividends and life cycles are positive statistically and significant . However, leverage is found to be not an important determinant of dividend payments and this is explained by the fact that Saudi firms are generally low-geared. Furthermore, Juhmani (2009) studies the determinants of dividend payout policy of 35 Bahraini firms. His results show that profitability has the

greatest effect on the current-year cash dividends change, followed by previous-year dividends and lastly, by size of Bahraini companies. On the other hand, financial leverage does not influence the change in cash dividends. This is further supported by a study on the determinants of dividend policy in Pakistan conducted by Ahmed and Javid (2009).

DATA AND METHODOLOGY

This study examines the determinants of dividend policy of financial institutions in Malaysia. Samples of firms that are listed in the Bursa Malaysia for the period of 2001 to 2010 are considered. However, based on the availability of data in the DataStream and annual reports of each financial institution, out of 36 financial institutions listed in Bursa Malaysia, 33 were selected for this study. This includes financial institutions offering banking and financial services, investment banking and brokerage as well as insurance and reinsurance. The rationale for this is that all these financial institutions have common factors of being highly leveraged and highly regulated and act as financial intermediaries in the financial markets. This study includes both financial firms that pay dividends and those that do not so as to avoid selection bias (Kim & Mandala, 1992; Deshmukh, 2003).

The dependent variable in this study is Dividend Payout, which is measured by the dividend payout ratio while the independent variables are profitability, liquidity, lagged dividend, growth and leverage. Table 1 below provides a summary of the variables used.

The correlation coefficient measures the degree to which two variables are associated with each other. It can take any value between -1 and +1. A value of -1 means that the variables move in the opposite direction while a value of +1 means the variables move in the same direction. This test is conducted to determine the presence of multi-collinearity among the regressors.

The model in this study is tested for a stationary series using the panel unit root test in order to ensure that an inconsistent and spurious relationship is not analysed. A series will not be stationary if it shows a stochastic trend, or even simply wanders around randomly, and thus it cannot be forecast in the future. Regardless of the starting point, a stationary series will constantly return to a given value and is also expected to attain that value in the long run (Hall, 1994). Two Panel Unit Root Tests were considered in this study, which are Levin *et al.* (2002) (LLC hereafter) and Im, Pesaran and Shin (2003) (IPS hereafter).

LLC allows for heterogeneity of individual deterministic effects and heterogeneous serial correlation structure of the error terms, which assumes homogeneous first order autoregressive parameters. The pooled t-statistic of the estimator is developed in order to evaluate the null hypothesis that each individual time series contains a unit root against the alternative hypothesis that each time series is stationary. The procedure imposes a higher power than the separate unit root test for each individual due to the imposition of a cross-equation restriction on the first-order

TABLE 1
Summary of Variables

Variables		Proxies
Dependent	Dividend Policy	*Dividend Payout Ratio (DPR)* The ratio of dividends paid out of the total earnings. It is calculated as: (Dividend/Earnings) or (DPS/EPS) This variable is used in the study of determinants of dividend policy of banks in Ghana that was conducted by Yiadom and Agyei (2011) and is proved to be a significant determinant of dividend policy.
Independent	Profitability	*Return on Assets (ROA)* Since the financial institutions chosen for this study differ in size, a comparison based on absolute amount (i.e. net income) will not yield reliable results. Return on Assets is used as a proxy for profitability. It is calculated as: Net Income/Total assets
	Liquidity	*Cash Flow (LIQ)* As found by Brittain (1966) in his study, the more appropriate measure of a company's ability to pay dividends is cash flow. The formula is as follows: Cash and cash equivalent/Net total assets
	Lagged Dividend	*Do (LAGDIV)* This refers to the cash dividend paid a year before the year under study. A company that follows a stable dividend policy, past dividend trend influences the current dividend payment. Most of the previous studies have taken this variable into account as a vital factor that determines dividend policy.
	Leverage	*Total Debt to Total Asset (LEV)* This variable was used by Ajmi and Hussain (2011) in their study of corporate dividend decisions: Evidence from Saudi Arabia. It is calculated as: Total Debt/Total Asset
	Growth Opportunities	*Asset Growth Rate (GROWTH)* Asset growth rate measures the average of expansion or contraction of a company. Generally, when growth is high, the distribution of dividends will be low because the company will retain most of its earnings to finance its investments. It is calculated as: (Total Asset ^{1}- Total Asset ^{o}) / Total Asset ^{o} This proxy is used by Forti & Schiozer (2011) in their study of informed depositors and bank dividends, a case of Brazilian banks, and Naceur *et al.* (2006) in the re-examination of the dividend policy of Tunisian firms.

partial autocorrelation coefficients under the null. The LLC tests are conducted using the following model:

$$\Delta y_{it} = \alpha y_{it-1} + \sum_{j=1}^{P_i} \beta y_{it-j} + X'_{it}\ \delta + \varepsilon_{it} \quad (1)$$

where, H_0: $\alpha = 0$ (there is unit root) and H_1: $\alpha < 0$ (no unit root).

Levin *et al*. (2002) noted that their panel based unit root tests are more relevant for panels of moderate size (i.e., $10 < N < 250$ and $25 < T < 250$). However, the major limitation of LLC is that the autoregressive parameters are considered identical across the panel. This limitation has therefore been overcome by IPS, which proposes a panel unit root test without the assumption of identical first order correlation under the alternative. They suggested a more flexible and computationally simple unit root testing procedure for panels which allows for a simultaneous stationary and non-stationary series. IPS tests use the same model as the LLC except that its H_0: $\alpha_i = 0$ for all *i* (existence of unit root) and H_1: $\alpha_i = 0$ for $i = 1, 2, \ldots, N_1$ or $\alpha_i < 0$ for $i = N+1, N+2, \ldots, N$ (no unit root).

The cross-sectional character of the data allows the use of panel data methodology. Panel data involves the pooling of observations on a cross-section of units over several time periods and provides results that are simply not detectable in pure cross-sections or pure time-series studies. Instead of only looking at the temporal behaviour of each company, the determination of temporal evolution of groups of companies is possible with the panel data technique. This technique takes into consideration the individual heterogeneity, which allows a larger number of data points, hence improving the efficiency of the estimates. Thus, the panel regression equation differs from a regular time series or cross-section regression by the double subscript attached to each variable. The general form of the panel data model can be specified as:

$$Y_{it} = \alpha_i + \beta X_{i,t} + \varepsilon_{it} \quad (2)$$

Where the subscript *i* denotes the cross-sectional dimension and *t* represents the time-series dimension. In this equation, Y_{it} represents the dependent variable in the model, which is Dividend Payout Ratio (DPR). X_{it}, on the other hand contains the set of explanatory variables in the estimation model. α is the constant and β represents the coefficients.

In addition, the following model was used for this study to explain the relationships between dividend payout ratios and the determinants:

$$DPR_{it} = \beta_0 + \beta_1 PROF_{i,t} + \beta_2 LIQ_{i,t} + \beta_3 LAGDIV_{i,t} + \beta_4 GROWTH_{i,t} + \beta_5 LEV_{i,t} + \varepsilon_{i,t} \quad (3)$$

where:

DPR_{it} = Dividend per share / earnings per share for firm *i* in period of *t*,

$PROF_{it}$ = Net income / total assets for firm *i* in period *t*,

$LAGDIV_{it}$ = Previous year divident for firm *i* in period *t*,

$GROWTH_{it}$ = Asset growth rate for firm i in period t,
LEV_{it} = Total debt / total asset for firm i in period t,
ε_{it} = Error term for firm i in period t

Panel data may have group effects, time effects or both, and these effects could either be fixed effects or random effects. A fixed effect model assumes differences in intercepts across groups or time periods, whereas a random effect model explores differences in error variances. In order to come to a decision on whether the fixed effects model or the random effects model should be adopted, the Hausman (1978) specification test is employed. The Hausman specification test compares the fixed versus random effects under the null hypothesis that the individual effects are uncorrelated with the other regressors in the model. If correlated (H_0 is rejected at 5 % significant level, where P-value<0.05), a random effect model produces biased estimators, which violates one of the Gauss-Markov assumptions, thus a fixed effect model is preferred.

RESULTS AND DISCUSSION

This research analyses the effect of profitability, liquidity, leverage, lagged dividend and growth towards the dividend policy of Malaysian financial institutions.

Correlation Analysis

In determining whether the coefficient estimates may vary erratically with respect to minimal changes in the model or the data, the correlation coefficients of the variables are shown in Table 2. Dividend payout ratio shows positive correlation with return on assets, liquidity and lagged dividend, but negative correlation with growth and leverage. On the other hand, return on assets exhibits positive correlation with liquidity, lagged dividend and growth, but negative correlation with leverage. Next, liquidity has positive correlation with lagged dividend but negative correlation with growth and leverage. Lastly, growth depicts negative correlation with leverage. The results above also depict that the presence of multi-collinearity among the regressors is minimal, indicating that multi-collinearity is not a problem in the regression model.

TABLE 2
Correlation Matrix of the Variables

	Dividend Payout Ratio	Return on Assets	Liquidity	Lagged Dividend	Growth	Leverage
Dividend Payout Ratio	1					
Return on Assets	0.1483	1				
Liquidity	0.1609	0.0776	1			
Lagged Dividend	0.4632	0.2197	0.0636	1		
Growth	-0.0149	0.2386	-0.0799	0.0324	1	
Leverage	-0.2739	-0.1285	-0.1135	-0.2518	-0.0067	1

Panel Unit Root Test

Prior to testing for panel regression, the data are tested for stationarity. This is conducted in order to be sure that the researcher is not analysing an inconsistent and spurious relationship. Two panel unit root tests are employed in this study, which are the Levin, Lin & Chu (LLC) and also the Im, Pesaran & Shin (IPS). The results of the panel unit root tests for the chosen variables, both in level and first difference, are reported in Table 3. In addition, the null hypothesis H_0: assumes a common unit root process. As shown in Table 3, both LLC and IPS tests show that dividend payout ratio, return on assets, liquidity, growth and leverage for Malaysian financial institutions are stationary at level I(0). However, lagged dividend is stationary in its first difference I(1).

Panel Regression

Table 4 shows the results of panel regression. In order to determine whether the fixed effects model or random effect model works for the panel regression, the Hausman (1978) specification test is employed. This test is under the null hypothesis that the correlation between the stochastic error term and explanatory variables is null and thus, the random effects model is more

TABLE 3
Panel Unit Root Test Results

Variables	LLC Test		IPS Test	
	Level	First Difference	Level	First Difference
Dividend Payout Ratio	-11.8308** (0.0000)		-5.6807** (0.0000)	
Return on Assets	-11.8937** (0.0000)		-6.06997** (0.0000)	
Liquidity	-6.1368** (0.0000)		-3.6103** (0.0002)	
Lagged Dividend	-3.3844** (0.0004)	-15.487** (0.0000)	-0.5915 (0.2771)	-7.2953** (0.0000)
Growth	-24.8655** (0.0000)		-14.8698** (0.0000)	
Leverage	-24.4003** (0.0000)		-8.4702** (0.0000)	

Notes:
** denotes significant at 1% confidence level.
Numbers in parenthesis are p-value.
The null hypothesis of LLC test and IPS test is that all of the series in the panel must contain unit roots. The alternative hypothesis of LLC test is that all of the series in the panel are stationary, whereas the alternative hypothesis of IPS test is that at least one of the series in the panel is stationary.

suitable compared to the fixed effects model. The results of the regression are shown in Table 4, together with the results of the Hausman specification test. The Hausman specification test rejects the null hypothesis at 1 % significant level, thus denoting that the fixed effect model is better than the random fixed effect model. Hence, this study captures the determinants of dividend policy via the fixed effect model.

TABLE 4
Panel Data Methodology: Fixed-effect Model

33 Cross-sections x 9 years (after adjustments)

Dependent Variable: DPR	
Independent Variables	Coefficient
Constant	0.3079** (0.0000)
ROA	1.3875** (0.0034)
LIQ	0.2237 (0.1113)
LAGDIV	0.8556** (0.0083)
GROWTH	-0.0318 (0.6034)
LEV	-0.4713** (0.0000)
R^2	0.1602
Number of Observations	306
Hausman Test	Prob = 0.0001

Notes:
** denotes significant at 1% confidence level

The regression results indicate that profitability, as measured by return on assets, has a statistically significant positive relationship with the dividend payout. This signals the fact that the financial institution's profitability is viewed as a vital factor in influencing the dividend payments. The positive relationship indicates that as the financial institution becomes more profitable, it is more likely to declare high dividends. Over time, profitable Malaysian financial institutions are capable of accumulating sufficient earnings, enabling them to distribute higher dividend payments to their shareholders. This finding is consistent with prior empirical studies (Lintner, 1956; Fama & Babiak, 1968; Pruitt & Gitman, 1991; Fama & French, 2001; Abor & Bokpin, 2010; Yiadom & Agyei, 2011).

However, the results show that liquidity, as measured by ratio of cash and cash equivalents to total assets, has a positive effect on dividend payouts but the result is insignificant. This implies that Malaysian financial institutions that have ample liquidity are more likely to distribute higher dividends to shareholders, compared with those that have less liquidity. This conforms to the free cash flow hypothesis. However, the insignificant relationship between these two variables might be due to the fact that compared with companies in other industries, financial institutions have ample short-term investment opportunities. Thus, although they may have high liquidity, they will also take into consideration their short-term investment opportunities. This

is consistent with past studies conducted by Chen and Dhiensiri (2009) and Yiedom and Agyei (2011).

Lagged dividends have a significant positive relationship with the dividend payout of Malaysian financial institutions. This shows that financial institutions in Malaysia follow a stable dividend policy, where regularity of dividend payments is maintained, resulting to only a gradual adjustment of dividend payments towards a target payout ratio. This result supports the signaling theory, where most firms are reluctant to decrease dividend payments as it is normally viewed as terrible news indicating that the management might encounter reduction in its cash level. This result is also consistent with the findings of past studies (Baker *et al.*, 2004*;* Farelly *et al.*, 1986*;* Pal & Goyal, 2007*;* Yiedom & Agyei, 2011*)*.

Growth, which is measured by the changes in assets, shows a negative influence on dividend policy. This indicates that when past or anticipated future growth is rapid, managers tend to conserve funds for reinvestment purposes, hence establishing a lower payout ratio. Managers' reluctance to be short of funds and to rely on costly financing to protect against under-investment is one of the possible reasons for this. Moreover, the retained earnings will increase their capacity in relation to profitable investment opportunities. However, the relationship is insignificant. This may be due to the financial institutions making dividend decisions independently of investment policy. This result is consistent with earlier empirical evidence (Pruitt & Gitman, 1991; Al-Twaijry, 2007; Ahmed & Javid, 2009).

Lastly, there is a significant positive relationship between leverage and dividend payouts of Malaysian financial institutions. This indicates that a riskier financial institution pays out lower dividends in order to lessen its reliance on external financing. This is similar to the findings recorded in finance-related literature (Dhrymes & Kurz, 1964; Mahapatra & Sahu, 1993; Mahapatra & Pandi, 1995; Aivazian & Booth, 2003; Yiedom & Agyei, 2011). Nevertheless, the R^2 of 0.1602 shows that 16.02 % of the variation in the dividend policy can be explained by the independent variables, namely, profitability, liquidity, lagged dividend, growth opportunities and leverage, whereas the balance of the variation is explained by other internal or external forces or other variables.

CONCLUSION AND RECOMMENDATIONS

This study is conducted to identify the determinants of the dividend policy of Malaysian financial institutions. The panel dataset is constructed from 33 financial institutions in Malaysia over a period of 10 years (2001-2010). Due to the advantages of panel data analysis this study employs panel data analysis. In order to test the relationship between dividend policy and the chosen set of explanatory variables, the fixed effect model is used based on the result of the Hausman specification test.

The results show a statistically significant positive relationship between dividend policy and profitability, which implies that Malaysian financial institutions distribute higher dividends when they record higher profitability, despite the regulations that they need to follow before declaration of dividends, outlined in the Banking and Financial Institutions Act 1989 and Insurance Act 1996. Similarly, liquidity shows a positive association with dividend policy, which means that the financial institutions with ample liquidity will likely distribute higher dividends. However, this association is not significant as shown by the analysis. Lagged dividends also show a positive significant relationship with dividend policy, which implies that financial institutions in Malaysia follow a stable dividend policy that maintains regularity of dividend payments with gradual adjustments of dividend payments towards target payout. However, the results find that growth opportunity has a negative association with dividend policy. This attests that financial institutions in Malaysia with higher growth opportunities will likely retain their earnings in order to finance their growth. This association, however, is not significant in the case of Malaysian financial institutions. Finally, leverage shows a significant negative relationship with dividend policy, which means that a riskier financial institution pays out lower dividends.

In conclusion, profitability, lagged dividend and leverage are found to be the major determinants of dividend policy in relation to Malaysian financial institutions. The results support the agency cost theory, signaling theory and the free cash flow hypothesis. This study only focuses on five independent variables that aim to explain the determinants of dividend policy in the Malaysian financial industry. As a result, the variables chosen can only explain 16.02 % of the variation in the dividend policy. However, based on the literature, there are other factors that can influence dividend policy such as size of firms and ownership structure, among others. Thus, it is recommended that more variables should be added in future studies in order to better analyse the determinants of dividend policy for more robust results.

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